

The Dodo and its kindred ; or the History, Affinities, and Osteology of the Dodo, Solitaire, and other extinct Birds of the Islands Mauritius, Rodriguez, and Bourbon. By H. E. STRICKLAND, M.A., F.G.S., F.R.G.S. ; and A. G. MELVILLE, M.D. Edin., M.R.C.S. London. Reeve, Benham and Reeve, 1848.

It would be difficult to name a subject more profoundly interesting to the naturalist than is that to whose investigation the work above named forms a valuable contribution. The inquiry indeed into the origin and extinction of species may be truly considered as the question of questions to the naturalist,—the highest and most sublime to which, in the most comprehensive study of his subject, his attention can be directed. The chronology of such origin and extinction forms indeed the great work to the completion of which the labours of the palæontologist are tributary, and which gives to them their greatest interest and charm. No earnest observer can doubt that such origin and extinction are subject to some certain laws of that Unity which, whenever we can penetrate below the surface, is found stamp'd upon the face of every created thing,—although we may be unable, at present, clearly to see and understand those laws. And the uncertainty we have upon the subject makes every illustrative contribution the more interesting. This interest is certainly enhanced when the inquiry concerns a creature or creatures which have become extinct within the memory of man. The fact, if established, adds an important illustration to the arguments by which that view is supported, which has gradually gained ground as the domain of science and observation has been enlarged, and which considers all the wide and varied changes which the earth's surface has undergone to have been due to causes now in operation ; a generalization which again reflects no little light upon the question of the origin and extinction of species itself.

That species have, in fact, become extinct within the time and by the agency of man admits of no doubt. We cannot however agree with one of the authors of the above work in his enumeration of the instances of such "proved" extinction, inasmuch as we conceive that no evidence is yet before the world of the extinction, within human times or by human agency, of the *Megaceros Hibernicus* or Irish Elk—perhaps the most interesting of the cases he has cited. A careful consideration of this point has led us to the conclusion that, at present, there is no "evidence that the *Megaceros* co-existed with the human race, or that its extinction was the result of man's hostility*." And this conclusion has not been formed without a full consideration of all the facts recently brought forward as to certain remains alleged to have been found at Lough Gûr† near Limerick ; the mode of arguing and of handling which facts seems to us in itself to put the cautious inquirer upon his guard as to how far he

* Owen's Brit. Foss. Mammals, p. 461.

† These discoveries, and the discussion arising out of them, are detailed in Charlesworth's Geol. Journal, p. 87 &c. (1847).

accepts the conclusions which are so eagerly sought to be drawn from them.

Although we regret that the conclusions as to the Irish Elk should have been so readily adopted in the present work, it is satisfactory to think that no similar uncertainty can exist as to the special object of the work itself. It is true that Mr. Strickland speaks (p. 62) of "*rescuing* these anomalous creatures from the domain of fiction." He can hardly intend, however, what these words seem to imply. Few persons who have any familiarity with the subject can now pretend to doubt the former existence of an actual creature,—the living Dodo. Even Mr. Gray, when doubting that the head and feet of Edwards's picture belonged to the same creature, cannot escape the conclusion of the former existence, and now extinction, of some great bird in the islands of the Eastern Seas. The present work is, nevertheless, of very great interest and value, even on this part of its subject, for the industry, care, and success with which all the notices of these creatures by any of the old navigators have been collected, together with many other incidental mentions made of them, and with the addition of notices of all the representations or remains of them whose existence can be ascertained. This part of the work forms an important illustration of the kind of evidence on which alone any true naturalist can admit the existence of any anomalous creature. In proof of the existence of the Dodo we have, unlike the assumed evidence of the existence of some other anomalous monsters of which we have lately heard much, every canon of cautious truthseeking fully satisfied. With no traditional superstition or belief to give an origin to such a story* (a point of no little importance in such an investigation), we have here fifteen or sixteen separate and independent authorities all alluding incidentally to the Dodo, each different in language and description, yet each of which has points of resemblance that cannot be mistaken as referring to similar objects. We have moreover drawings of the creature itself, made by different hands, and at different times, and with different objects; some of them rude and coarse to grotesqueness; others finished works of art. Yet throughout all these there run characters which it is impossible to mistake, and which satisfy us that the draughtsmen drew, not from imagination, but from something real,

* It has always seemed to us that the fable of the Great Sea Serpent, which first spread in modern times from Norway, was to be traced to the myth, in the fine Old Northern Mythology, of that fell offspring of Loki, Jormungandr,—the great world-surrounding serpent, whom Thor fished up with the bull's-head bait, and whom, at the great day of Ragnarok, he shall slay. It is curious, by the way, that we are expressly told how Jormungandr, rearing his head, poured out fountains of venom upon Thor, very much as old Bishop Egede tells us of the great sea serpent raising up its head and spouting out water.

Since the above, and the former part of this note, were written, Professor Owen's letter has appeared in the 'Times' of November 14; which gives a simple and clear explanation of the circumstances that have recently attracted attention, and briefly, but conclusively, discusses the question of the existence of the Great Sea Serpent generally.

and from individuals of one and the same species. It were perhaps impossible to illustrate this better than by the two following figures.



Bontekoe's figure of the Dodo (about) 1646.



Van den Broecke's figure of the Dodo, 1617.

However grotesque the first may appear, the resemblance in main character between both and the well-known picture in the British Museum is obvious. All accounts agree, too, as to the local habitation of these creatures, a point in which, if it had been a mere travellers' wonder, they could certainly not have done without copying from one another. We do not find the creature met with at one time near the North Pole, at another in the West Atlantic, and at another near the Southern Tropics; in each case under circumstances of wonder, and referred to some unknown legendary marvel; while in none was it within actual reach and handling, nor were any or-

ganic remains of it brought away. The Dodo, on the contrary, is always named as having been found in the same region; is told of as no fearful thing, but as one very easy to be killed, though less easy to be eaten, but of which, nevertheless, very many were from time to time both killed and eaten by those who found it. Finally, actual relics of the creature were brought away and still exist. The genuineness and truthfulness of Savery's pictures of the Dodo seem to us to be fully and clearly shown, and every naturalist must, we think, feel that now, at least, we have satisfactory materials on which to work. And this should lead us to notice the other part of the work, the whole of which is valuable for the minute details which it affords, both by descriptions and figures of unsurpassed beauty, of the osteology of the Dodo.

With respect to the affinities which it is the object of this book to establish as those of the Dodo, it would be impossible, in a brief review, to enter into the discussion of the question. The patience and ability displayed in working out the osteological details will be admitted by every one, whether or not the special conclusions urged may be accepted. One or two remarks as to those conclusions may however be allowed us, without its being considered that we would wish to lessen any of the just weight which may belong to the points actually specified. Without discussing, then, the comparative anatomy itself of the Dodo, we must confess that the impression left on our mind after a careful perusal of this book was, that it is inconceivable that the whole matter can be so very clear, the columbine affinities so very obvious and unmistakable, as is here represented. We would notice this point earnestly, inasmuch as every truth-seeker must feel that science is perpetually suffering much through a too eager haste in the attempt to establish some novel conclusion. When the undisputed success of the manifold researches of Prof. Owen is remembered, it would reflect little upon him that, in the case of the Dodo, or any other individual case, he should have erred. But when the care and caution upon which alone that success has depended and must depend are also remembered, and when it is known that to the anatomy of the Dodo he has devoted express attention, and, having devoted that attention, has arrived at a conclusion different from that of our authors,—though with less expression of confidence and certainty,—we cannot but feel satisfied that, be he right or be he wrong in his conclusions, it is at any rate too much now to say that “the only points in which the Dodo can be said to differ materially from the type of the Pigeons are few in number, and are not such as to make any approximation to the Raptorial form” (p. 45), and that “the whole or a majority” of “the family characters of the skull in the Columbidae” (p. 75) are found so obviously in that of the Dodo, while it “differs from that of the Vulturidae” (*ib.*) in a long enumeration of “important and characteristic distinctions.” No one can have engaged in the close investigation of any branch of natural history, or indeed anything else, earnestly seeking the truth, and not have felt how easy it is, when once a particular idea has been taken up, to detect in every minute and barely distinguishable point imagined corroborations of that idea, while

points inconsistent with the idea are overlooked ;—that, in short, in order to feel any confidence in the truth of any result worked out, it is necessary, at every step, to contend, as it were, against the evidence itself, and cautiously to seek out, not so much for that which will support, as for that which will militate against, the conclusion which it is thought may be established. And where the case is a disputed one, there is, philosophically considered, more weight to be attached to, and reliance to be placed upon, results in the statement of which it is admitted that there exist points of difficulty and doubt,—thus affording proof that such points have been sought and not avoided,—than to those the statement of which appears so smooth and clear and free from doubt and difficulty that he who runs may read. While therefore we must bestow the warmest meed of approbation on the elaborate attention which has obviously been given to the anatomical details contained in the present work, and which no one can examine without interest and instruction, we are bound to remind the seeker after truth that this is not all that has been said upon the subject, and therefore not all that can be said : and, if he would advance truth and true science, he is bound, before accepting the conclusions here put forth, to give every attention to what has been or may be said in support of any other views. He has here one view of the present subject most carefully, elaborately and clearly stated, and with every advantage which pictorial illustration can give. Cordially congratulating the scientific reader that the materials for discussion are thus before him in the most ample form, we must then repeat that they can only, at present, be regarded as *materials*, and that the question of the affinities of the Dodo cannot be regarded as settled and conclusively established until a careful comparison has been made between the facts urged in support of the conclusion set forth in this volume and those which have more especially attracted the attention of others, who, from an examination of the materials which exist for a determination of the question, have arrived at a different conclusion.

Outlines of Botany, Part I. By W. MATEN, M.D. London, H. Baillière. 1848.

This little work appears to have been drawn up as a substitute for the notes which industrious students make during their attendance on lectures. As such it may prove useful, but to those who have had no previous instruction it will be of little service. When we mention that it has been attempted to give an outline of the organography and physiology of plants in eighteen pages, and that all the more important organs and parts are alluded to, it will be comprehended that no great space could be afforded for explanations. On the whole the organography is tolerably clear, though in several points the author has adopted views now generally abandoned. Several of these cases we have marked for notice.

The description of the structure of stems is sufficiently vague, and the old doctrine of *endogenous* growth is still adhered to. No allu-